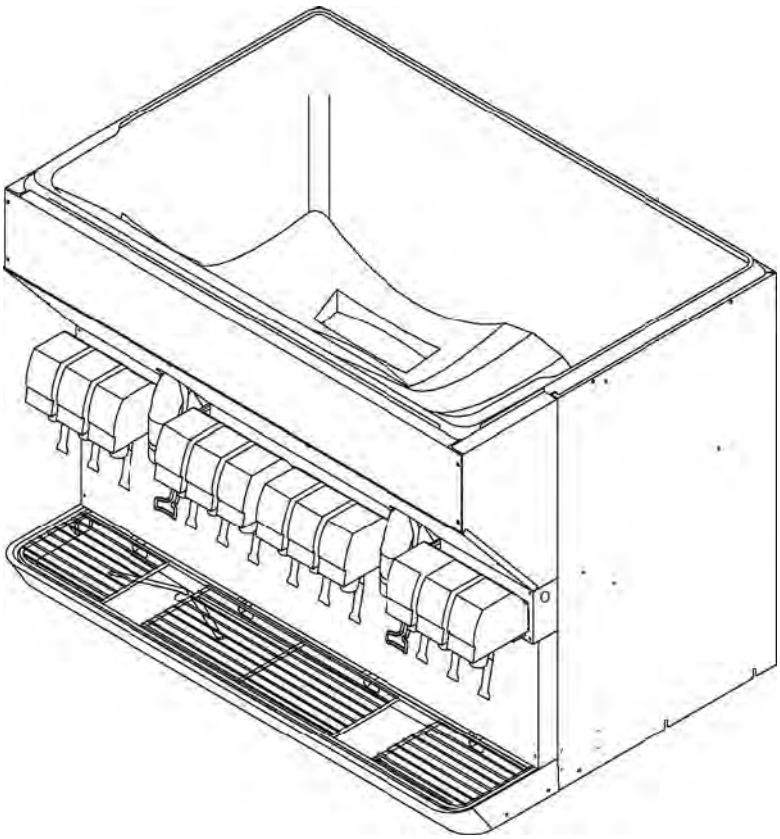
Installation Manual

ICE/BEVERAGE DISPENSER
ED 300 BN and ED 300 BC (Quick Trip)



Publication Date: November, 1998

Publication Number: 620913202

Revision Date: October 12, 2011

Revision: C

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The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

This Product is warranted only as provided in Cornelius' Commercial Warrant applicable to this Product and is subject to all of the restrictions and limitations contained in the Commercial Warranty.

Cornelius will not be responsible for any repair, replacement or other service required by or loss or damage resulting from any of the following occurrences, including but not limited to, (1) other than normal and proper use and normal service conditions with respect to the Product, (2) improper voltage, (3) inadequate wiring, (4) abuse, (5) accident, (6) alteration, (7) misuse, (8) neglect, (9) unauthorized repair or the failure to utilize suitably qualified and trained persons to perform service and/or repair of the Product, (10) improper cleaning, (11) failure to follow installation, operating, cleaning or maintenance instructions, (12) use of "non-authorized" parts (i.e., parts that are not 100% compatible with the Product) which use voids the entire warranty, (13) Product parts in contact with water or the product dispensed which are adversely impacted by changes in liquid scale or chemical composition.

Contact Information:

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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Printed in U.S.A.

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SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

Safety Overview

- Read and follow **ALL SAFETY INSTRUCTIONS** in this manual and any warning/caution labels on the unit (decals, labels or laminated cards).
- Read and understand ALL applicable OSHA (Occupational Safety and Health Administration) safety regulations before operating this unit.

Recognition

Recognize Safety Alerts
 This is the safety alert symbol. When you see it in this manual or on the unit, be alert to the potential of personal injury or damage to the unit.

DIFFERENT TYPES OF ALERTS

DANGER:
Indicates an immediate hazardous situation which if not avoided **WILL** result in serious injury, death or equipment damage.

WARNING:
Indicates a potentially hazardous situation which, if not avoided, COULD result in serious injury, death, or equipment damage.

CAUTION:
Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury or equipment damage.

SAFETY TIPS

- Carefully read and follow all safety messages in this manual and safety signs on the unit.
- Keep safety signs in good condition and replace missing or damaged items.
- Learn how to operate the unit and how to use the controls properly.
- **Do not** let anyone operate the unit without proper training. This appliance is **not** intended for use by very young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep your unit in proper working condition and do not allow unauthorized modifications to the unit.

QUALIFIED SERVICE PERSONNEL

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.

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SAFETY PRECAUTIONS

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:

WARNING:
Disconnect power to the unit before servicing following all lock out/tag out procedures established by the user. Verify all of the power is off to the unit before any work is performed.

Failure to disconnect the power could result in serious injury, death or equipment damage.

CAUTION:
Always be sure to keep area around the unit clean and free of clutter. Failure to keep this area clean may result in injury or equipment damage.

SHIPPING AND STORAGE

CAUTION:
Before shipping, storing, or relocating the unit, the unit must be sanitized and all sanitizing solution must be drained from the system. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the unit to freeze resulting in damage to internal components.

CO_2 (CARBON DIOXIDE) WARNING

DANGER:
CO_2 displaces oxygen. Strict attention **MUST** be observed in the prevention of CO_2 gas leaks in the entire CO_2 and soft drink system. If a CO_2 gas leak is suspected, particularly in a small area, **IMMEDIATELY** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentrations of CO_2 gas experience tremors which are followed rapidly by loss of consciousness and **DEATH**.

MOUNTING IN OR ON A COUNTER

WARNING:
When installing the unit in or on a counter top, the counter must be able to support a weight in excess of 730 lbs. to insure adequate support for the unit. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.

NOTE: **Many units incorporate the use of additional equipment such as icemakers. When any addition equipment is used you must check with the equipment manufacturer to determine the additional weight the counter will need to support to ensure a safe installation.**

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Publication Number: 620913202

DESCRIPTION

The ”ENDURO” series of ice dispensers solves your ice and beverage service needs in the sanitary, space saving, economical way. Designed to be manually filled with ice from any remote ice making source, these dispensers will dispense cubes (up to 1-1/4” in size), cubelets and hard-chipped or cracked ice; and, in addition, several flavors of post-mix beverages. ”BC” units include beverage faucets and a cold plate and are designed to be supplied direct from syrup tanks and carbonator, with no additional cooling required.

SPECIFICATIONS

Model Descriptions:	ED300 (Ice only) -B (Beverage Faucets) -BC (Faucets andCold Plate) -Z (No Drip Tray) -F (Flavor Option)
Ice Storage:	300 lbs
Maximum Number of Faucets Available:	12
Built–in Cold Plate:	Yes, on BC Models Only
Electrical:	120/1/60 Hz, 5.2 Amps Total Unit Draw 220-240 /1/50/60 Hz 4.0 Amps Total Unit Draw
Dimensions:	44–3/8 in. Wide X 31–1/2 in. Deep X 37 in. High Z Model: 44–3/8 in. Wide X 23 1/16 in. Deep X 37 in. High

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INSTALLATION INSTRUCTIONS

IMPORTANT: TO THE INSTALLER.

It is the responsibility of the Installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112. 1.2-1979; or an approved vacuum breaker or other such method as proved effective by test and must comply with all Federal State and local codes, Failure to comply could result in serious injury, death or damage to the equipment

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local laws.

1. Locate the Dispenser indoors on a level countertop. The Dispenser must be sealed to the countertop. Using the mounting template (see Figure 5), determine the outline of the Dispenser and the six mounting holes for the desired location of the Dispenser. Remove the (6) plastic hole plugs from the threaded base mounting holes, the two base black plastic panels, and the two rear stainless steel cabinet access panels. Apply a continuous bead of NSF International (NSF) listed silastic sealant (Dow Corning 732 or equal) around the outline of the Dispenser on the countertop. Position the Dispenser on the countertop and wipe away any excess sealant immediately. Bolt the Dispenser to the countertop with 3/8--16 bolts.
2. The beverage and water manifold inlet lines, ice storage hopper drain tubes (2), and electrical power cords are routed through the two large openings in the base of the Dispenser. Access for these hook-ups is provided through the two rear cabinet openings.
3. Connect the (2) hopper drain tubes to an approved drain system with a backflow preventer in compliance to the local plumbing code. *Do not* "tee" into the drip tray drain line..
4. DRIP TRAY DRAIN ASSEMBLY: Route the drain tube to an open drain with the end of the tube above the "flood" level of the drain. Use the tubing, fittings, clamps, and insulation provided with the Dispenser to assemble the drain. The completed drain line *must* pitch continuously downward and contain no "traps" or improper drainage will result.
5. BEVERAGE SYSTEM: Connect the beverage system product lines to the Dispenser. Consult the water manifold hook-up schematic located on the front panel of the Dispenser to determine the connections for the Dispenser's internal water manifold for the desired non-carb and carbonated valve positions. These connections *should* be performed by a qualified Service Person.

NOTE: See applicable Plumbing Diagram (see Figure 7) or Decal on the lower front of the unit for the location of syrup and water connections.

6. Replace the two rear stainless steel cabinet panels after completing the hook-ups. Seal these access panels to the countertop with the approved sealant from step 1.
7. Clean the ice storage hopper interior (see CLEANING INSTRUCTIONS in the Owner's manual).
8. Connect the power cord to a 120 VAC, 60 Hz 3-wire grounded receptacle.

⚠ WARNING:

This unit must be grounded to avoid possible electrical shock to the operator. The unit power cord is equipped with a three pronged plug. If a three pronged (grounded) outlet is not available use an appropriate method to ground the unit.

Failure to comply could result in serious injury, death or damage to the equipment.

9. Maximum and minimum ambient temperature rating for correct operation is 40 to 105F.
10. The unit has to be placed in a horizontal position.
11. The dispenser is not designed for a wash down environment and must not be placed in an area where a water jet could be used.
12. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

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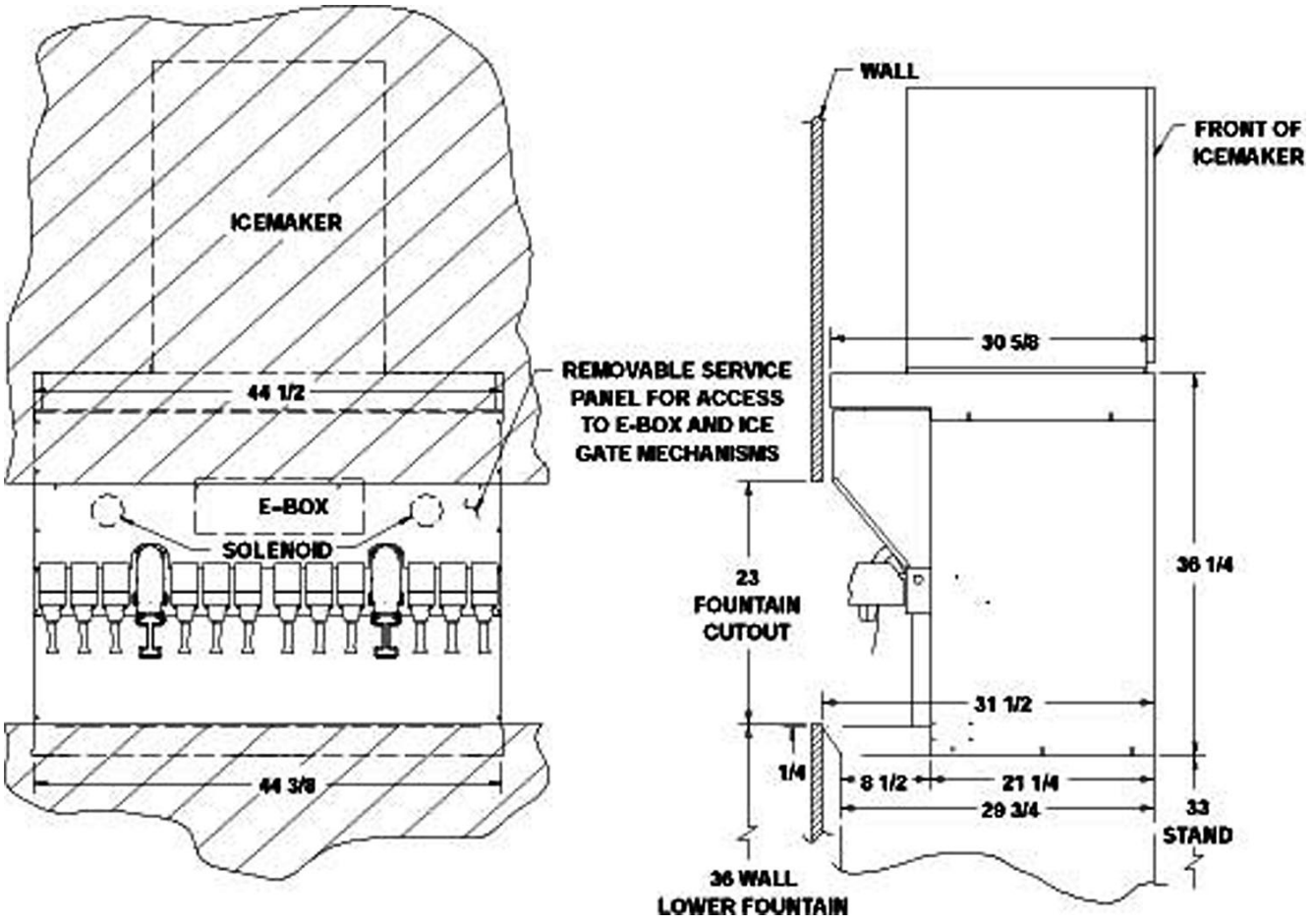

Figure 1. **Installation Dimensions**

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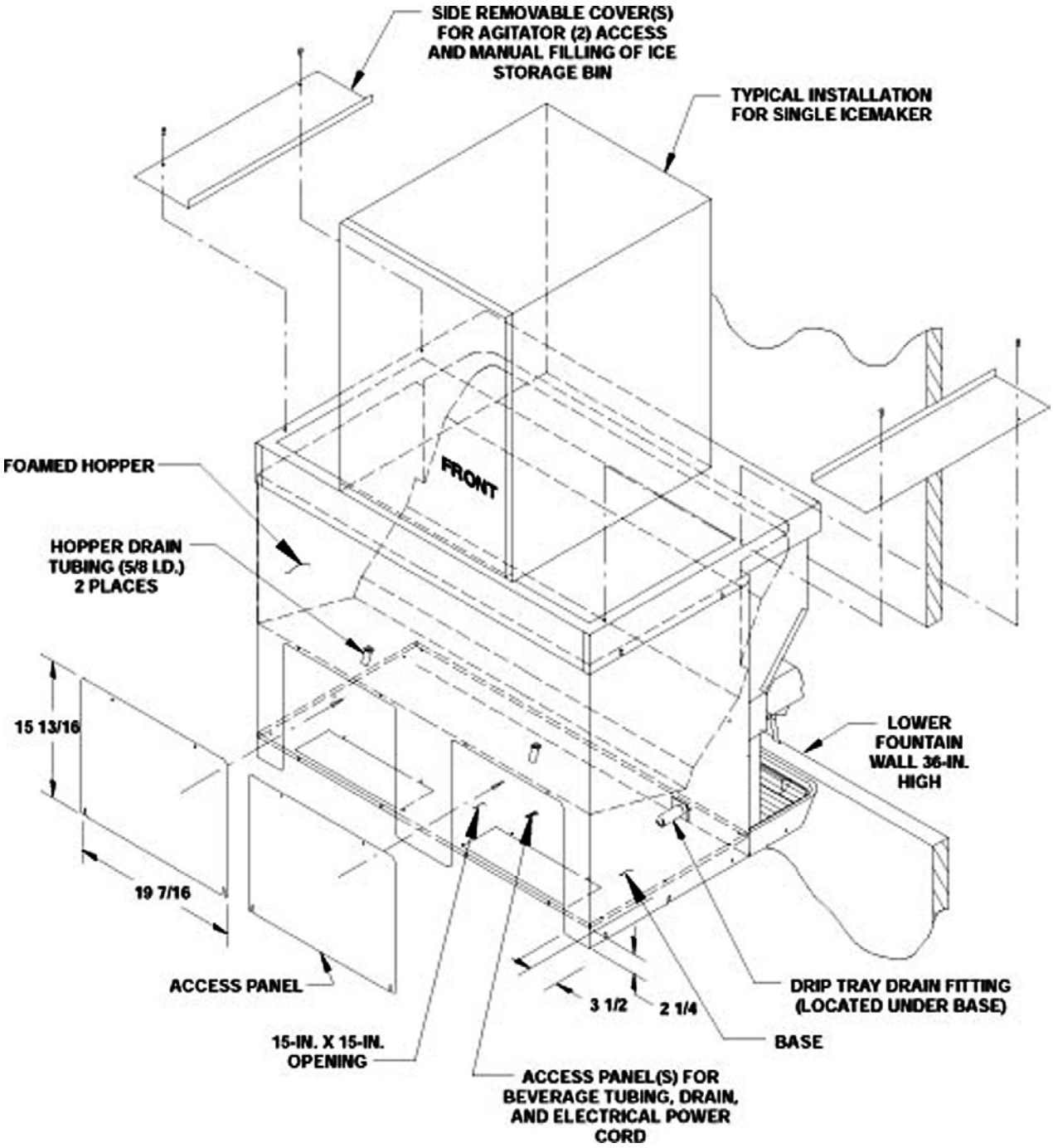
SIDE REMOVABLE COVER(S) FOR AGITATOR (2) ACCESS AND MANUAL FILLING OF ICE STORAGE BIN
TYPICAL INSTALLATION FOR SINGLE ICEMAKER
FOAMED HOPPER
FRONT
HOPPER DRAIN TUBING (5/8 I.D.) 2 PLACES
15 13/16
LOWER FOUNTAIN WALL 36-IN. HIGH
19 7/16
ACCESS PANEL
3 1/2
2 1/4
DRIP TRAY DRAIN FITTING (LOCATED UNDER BASE)
BASE
15-IN. X 15-IN. OPENING
ACCESS PANEL(S) FOR BEVERAGE TUBING, DRAIN, AND ELECTRICAL POWER CORD

Figure 2. **Installation Rear View, BN Model**

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ADJUST WATER-TO-SYRUP RATIO

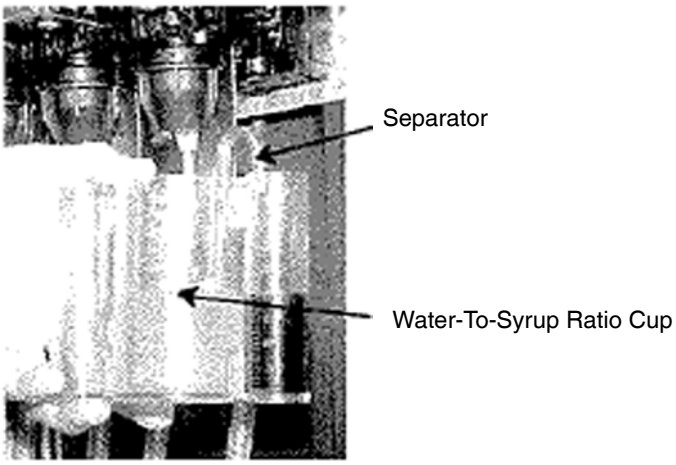

Figure 3.

1. Remove the valve cover and install syrup separator over the diffuser and through the nozzle.
2. Hold cup under the valve and beverage for a specific time (i.e. 2 seconds)
3. NOTE: water and syrup must be cold before checking the ratios.
4. Adjust carbonated water flow to the desired rate (such as 90 to 110 ml (3 to 3.75 oz) per second). Turn the flow adjuster 1/4 of a turn at a time and recheck the flow. Increase reading turns clockwise.
5. Set a syrup flow adjuster to get the desired ration.
6. Test the valve and adjust until a consistent ratio is delivered three consecutive times.
7. Repeat procedure for other valves.

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MAINTENANCE

GATE RESTRICTOR PLATE

WARNING:
Disconnect power to the unit before servicing. Follow all lock out/tag out procedures established by the user. Verify all power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.

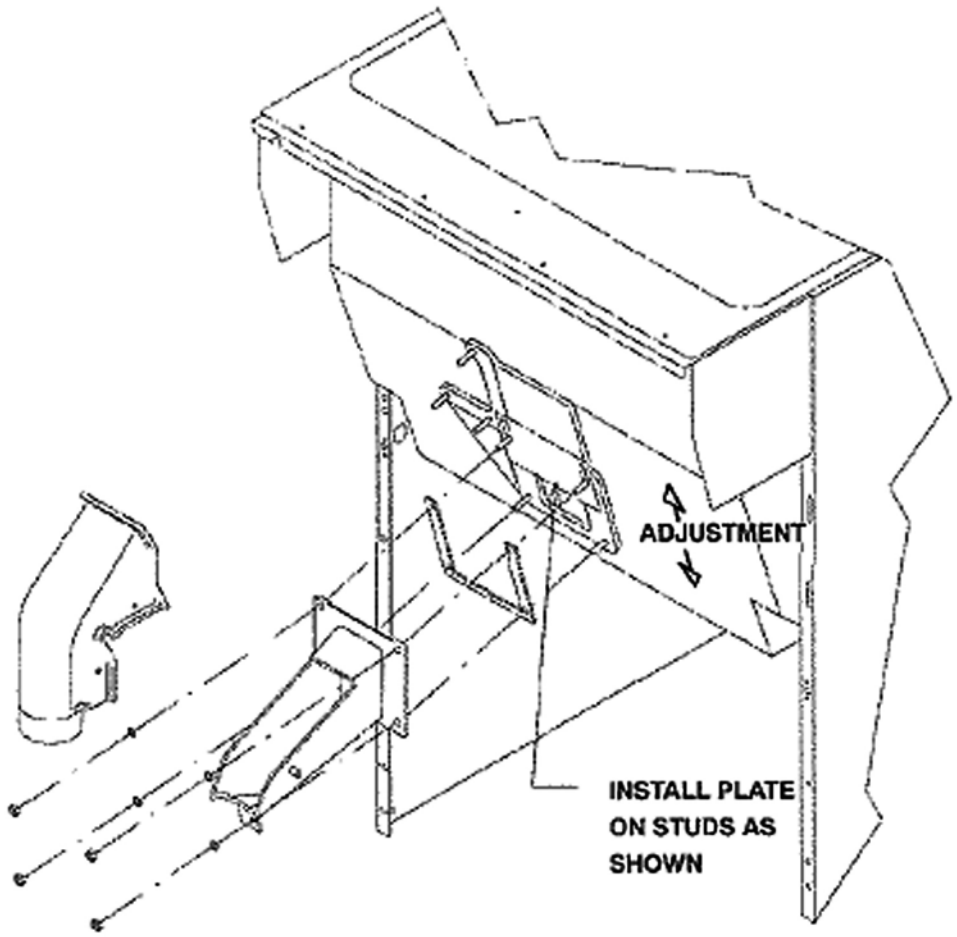

Figure 4. Gate Restrictor Plate

Adjustment

This plate may be adjusted as shown to reduce or increase the dispensing rate of ice, especially desirable when using glasses or other containers with small openings. Adjustment can be made by sliding up or down with nuts loosened, to obtain the desired amount of restriction.

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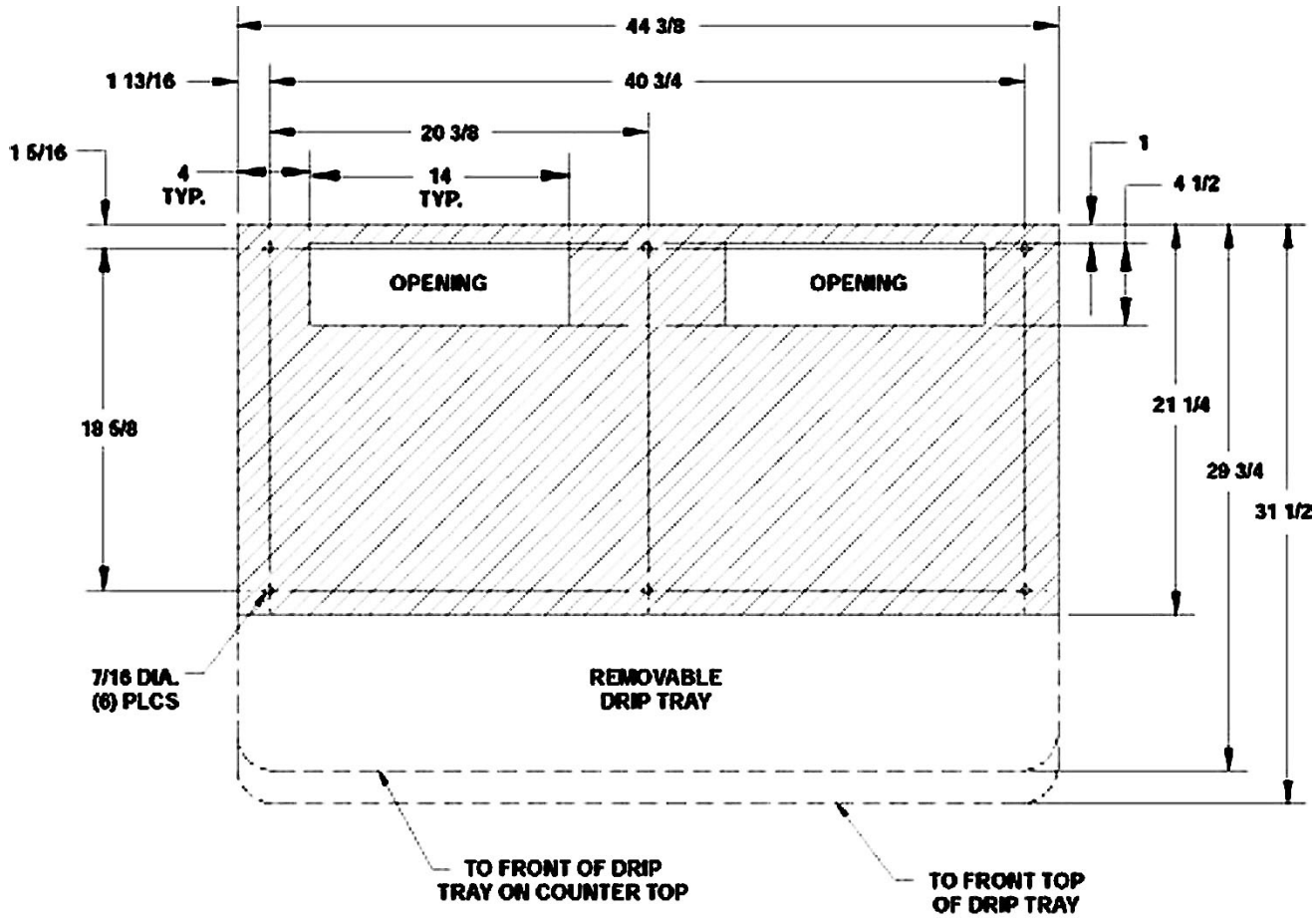

OPENING (2) IN UNIT BASE FOR BEVERAGE AND WATER MANIFOLD INLET LINES, HOPPER DRAIN LINES (2), AND ELECTRICAL SUPPLY GROUND.

Figure 5. Mounting Template

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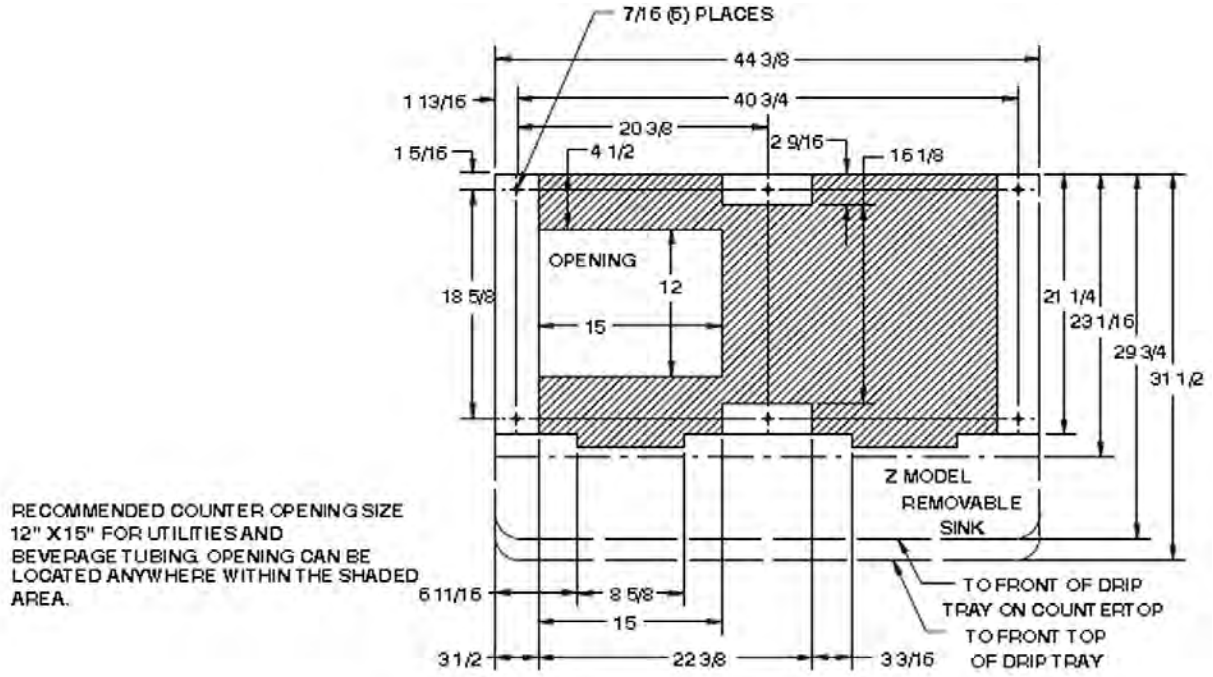

Figure 6. Mounting Template (-BC Models)

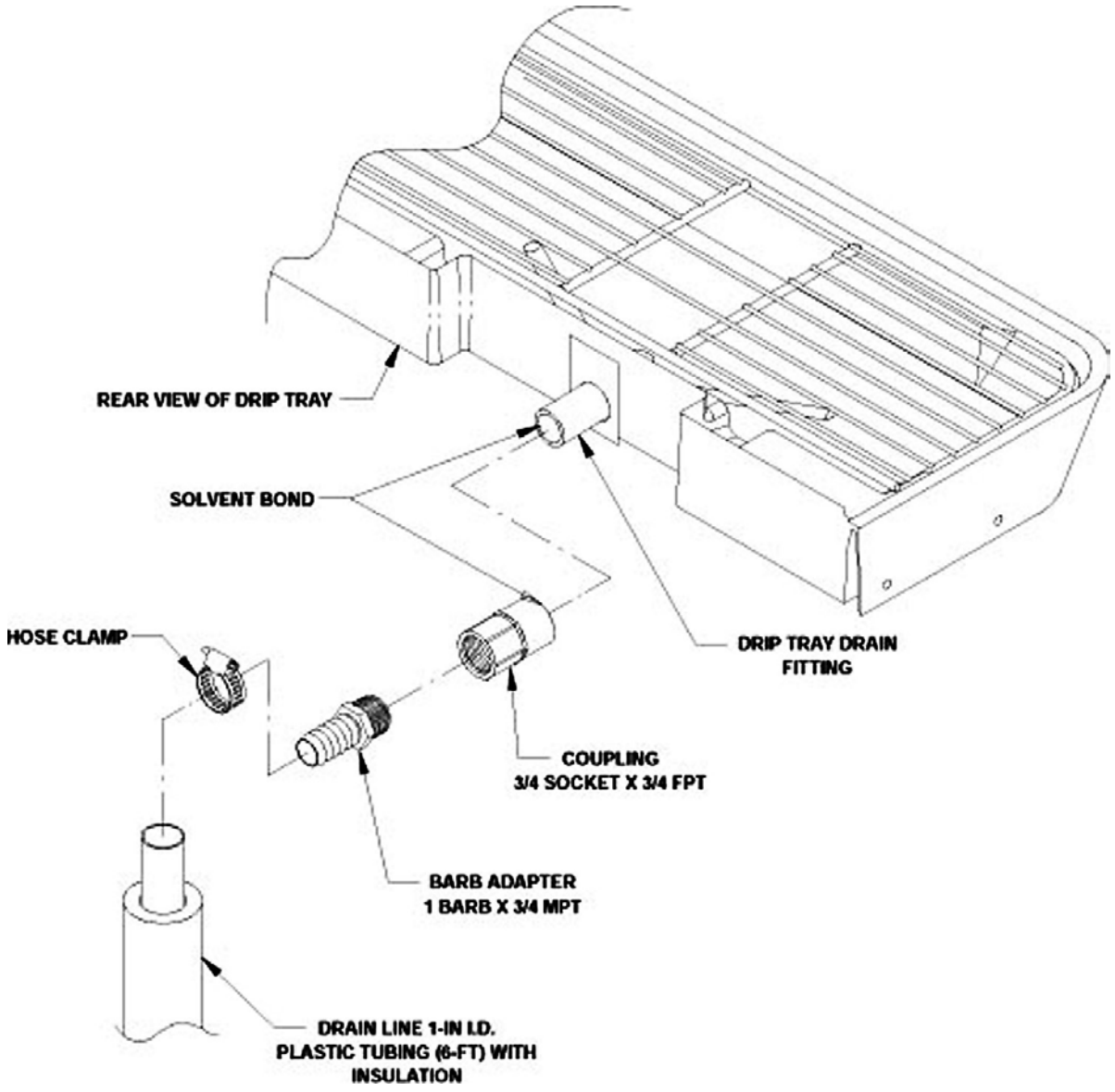
REAR VIEW OF DRIP TRAY
SOLVENT BOND
HOSE CLAMP
DRIP TRAY DRAIN FITTING
COUPLING 3/4 SOCKET X 3/4 FPT
BARB ADAPTER 1 BARB X 3/4 MPT
DRAIN LINE 1-IN I.D. PLASTIC TUBING (6-FT) WITH INSULATION

Figure 7. Drip Tray Drain Assembly

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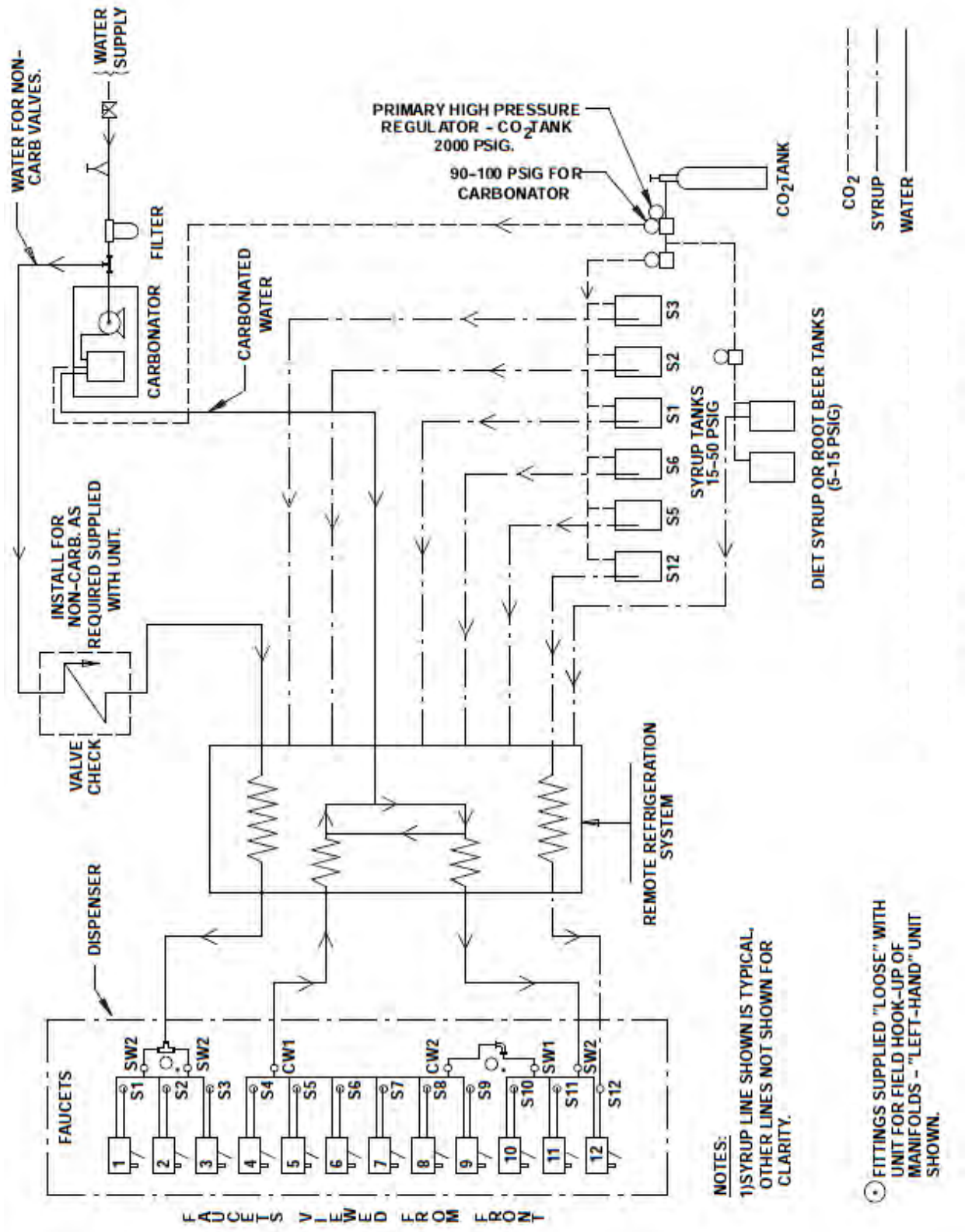

Figure 8. Beverage System Schematic

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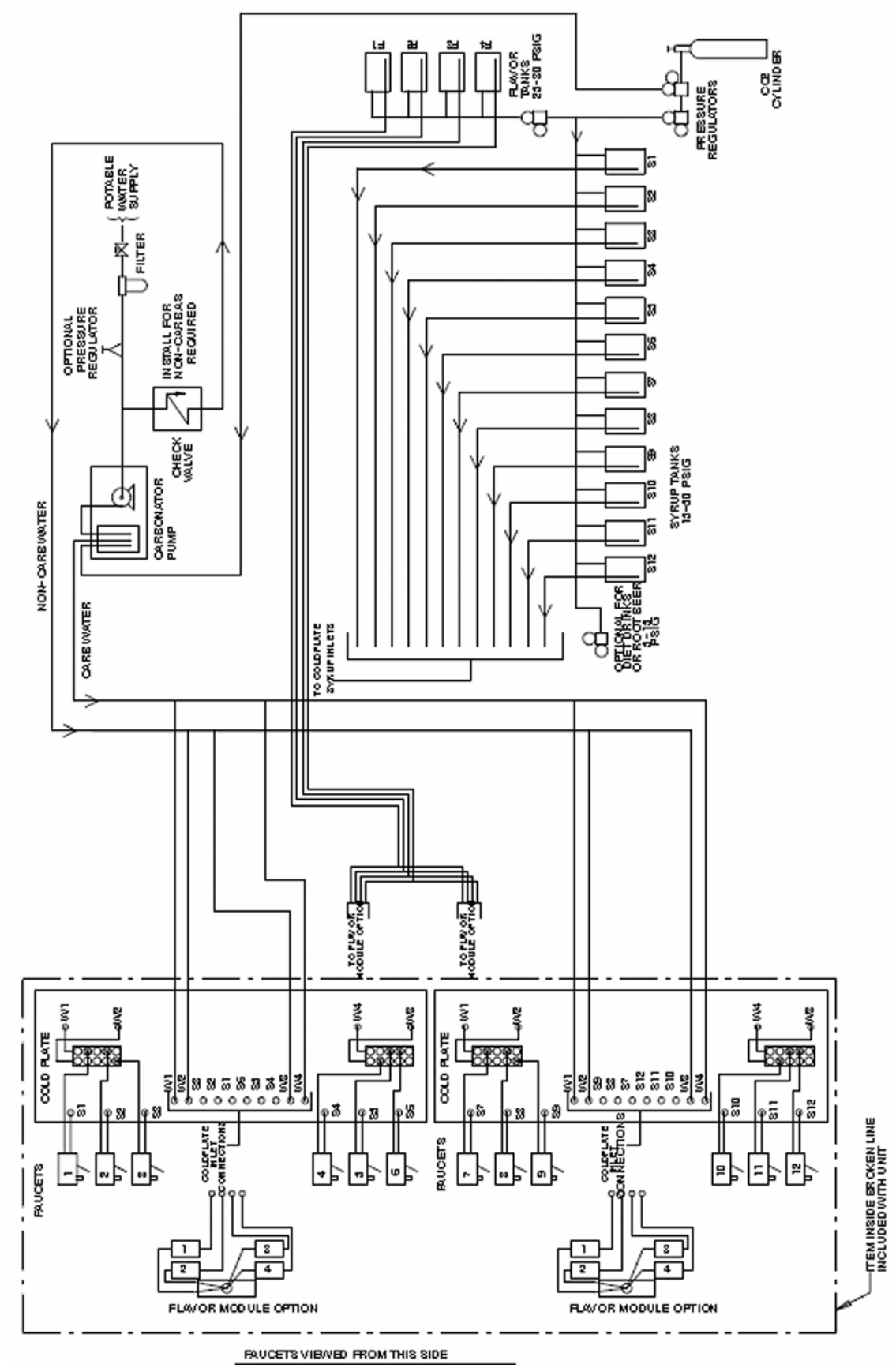

Figure 9. Flow Diagram (BC Models with 12 Beverage Faucets)

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TROUBLESHOOTING

IMPORTANT: Only qualified personnel should service internal components or electrical wiring.

⚠ WARNING:
If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO_2 system, stop dispensing, shut off the CO_2 supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause
BLOWN FUSE OR CIRCUIT BREAKER.	A. Short circuit in wiring. B. Defective gate solenoid. C. Defective agitator motor.
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	A. No power. B. Bent depressor plate (does not actuate switch). C. Defective dispensing switch.
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	A. Defective gate solenoid B. Excessive pressure against gate slide. C. Defective Rectifier.
ICE DISPENSES CONTINUOUSLY.	A. Stuck or bent depressor plate (does not release switch). B. Defective dispensing switch. C. Improper switch installation.
SLUSHY ICE. WATER IN HOPPER.	A. Blocked drain. B. Unit not level. C. Poor ice quality due to water quality or ice maker problems. D. Improper use of flaked ice.
BEVERAGES DO NOT DISPENSE.	A. No 24 volt power to faucets. No CO_2 pressure.
BEVERAGES TOO SWEET.	A. Carbonator not working. B. No CO_2 pressure in carbonator. C. Faucet brix requires adjusting.
BEVERAGE NOT SWEET ENOUGH	A. Empty syrup tank B. Faucet brix requires adjusting.
AGITATORS TURN IN OPPOSITE DIRECTIONS	A. This is normal and is necessary for uniform ice agitation.
ICE DOES NOT DISPENSE FROM ONE GATE ASSEMBLY	A. Agitators reversed B. Defective gate solenoid or rectifier C. Motors wired incorrectly

Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.

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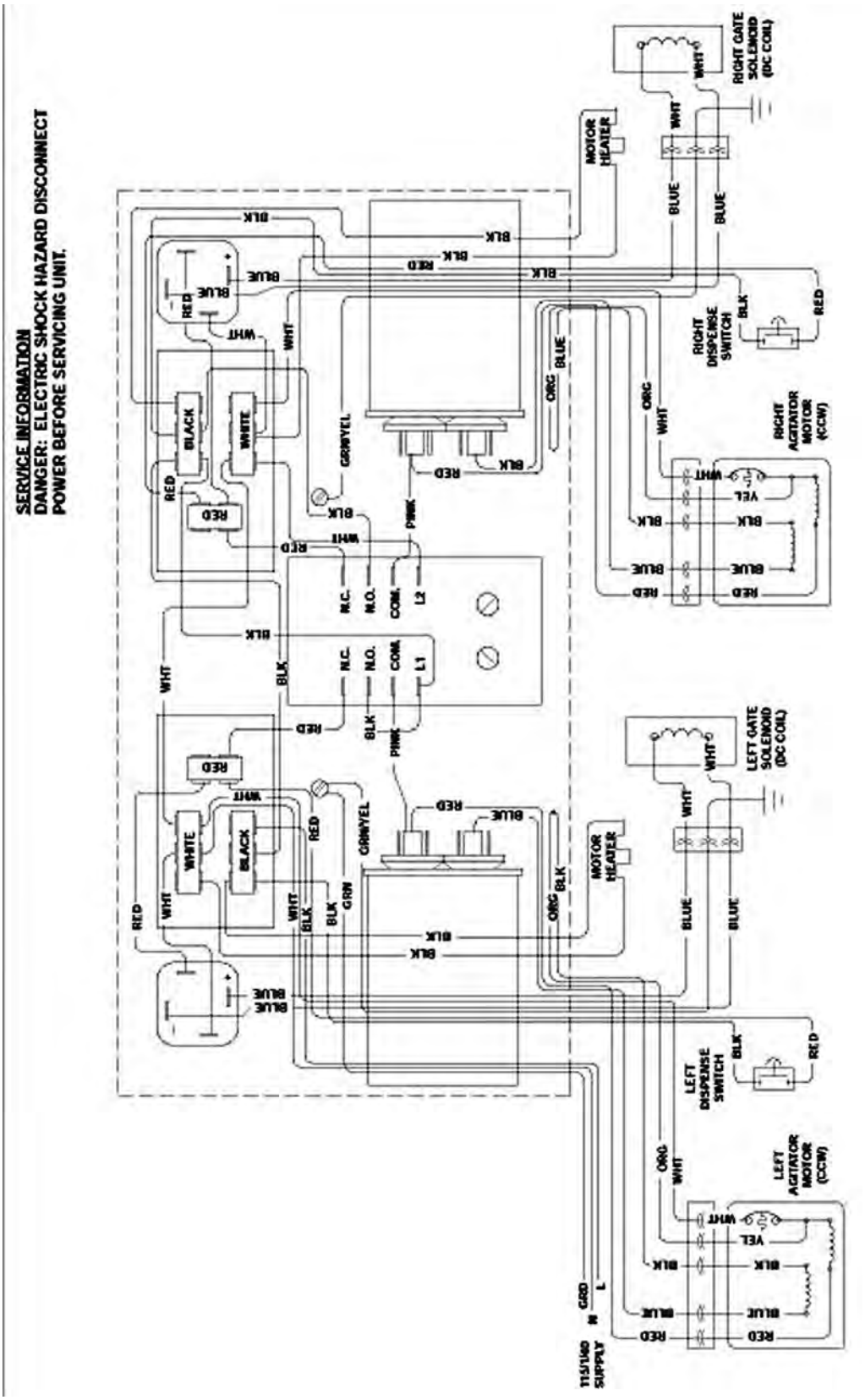

Figure 10. Wiring Diagram

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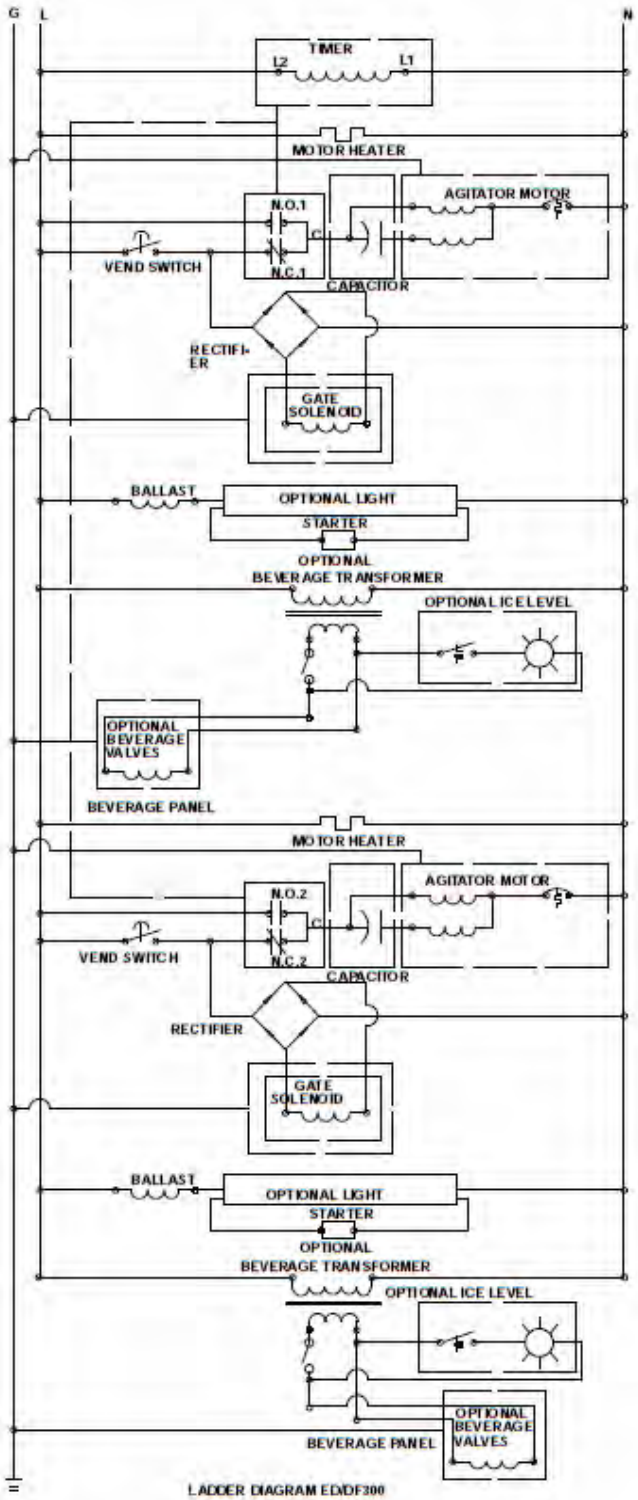

Figure 11. Ladder Schematic

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